

Briefing

Saving the UK's car industry: EVs, gigafactories and the Inflation Reduction Act

March 2023

Overview

Last year was monumental for electric vehicles (EVs) with a [53 per cent increase](#) in global sales compared to 2021, and the global market exceeding \$1 trillion. While the UK has been a leader in introducing the 2030 phase out date for new sales of petrol and diesel vehicles, the story of domestic EV manufacturing has not been as positive.

Approximately [80 GWh](#) of battery production will be needed in the UK by 2030 to keep up with current manufacturing rates, but there is only one existing operational plant supplying 1.9 GWh. Many original equipment manufacturers (OEMs) still haven't signed offtake agreements with battery producers and some are looking to Europe and the US while others are delaying. Britishvolt entering administration has not helped with the perception of gigafactory failure in the UK. Without domestic battery production, the UK risks significant job losses as automotive manufacturers relocate abroad.

Critically, the government has not put forward an overarching strategy for the future of battery and car manufacturing in the UK. Without this, the UK will struggle to attract the significant level of investment needed to support the automotive sector's transition to EVs.

The Inflation Reduction Act

The US Inflation Reduction Act (IRA) offers attractive incentives to car manufacturers and battery producers. It allows consumers to receive up to \$7,500 in credit if purchasing an electric vehicle that meets particular criteria, such as battery components being manufactured in the US, as well as a series of offers for manufacturers. If these tax credits were applied in the UK, our analysis shows that the level of government investment needed would be £64 billion between now and 2030. The manufacturing tax credits are set to last until 2032. With clear funding in place until the early 2030s, IRA provides investors with certainty and clarity, something the UK is severely lacking.

The lure of IRA electric vehicle subsidies is already pulling investment away from the UK. [Ford](#) has announced job cuts in the UK and Europe while also committing to a new \$3.5 billion gigafactory in Michigan, noting that the clean car tax credits under IRA will allow it to create low cost batteries. This comes after [Arrival](#) clearly stated IRA was the reason it was cutting UK jobs.

The EU's response

The EU is responding by drawing up a series of plans which include new legislation such as the critical raw materials act and a net zero industry act, and loosening state aid rules for funding. The aim is to reduce reliance on Chinese materials for batteries and stimulate investment in European derived batteries. Initial [drafts](#) of the EU's response to IRA have reportedly set a 40 per cent production target for batteries, as well as setting time limits on approval procedures to speed up deployment. This comes on top of individual member state funding, such as France's €12 billion on the car industry since 2020 and Germany's planned spending on EVs in 2023 of €5.6 billion.

EU member states, such as [Norway and Hungary](#), have developed robust battery strategies. Norway aims to set itself up as an attractive place to invest in battery manufacturing, taking a holistic approach by considering the whole battery value chain from access to critical minerals to recycling and second life.

The EU's response sets a clear direction for the investment landscape in battery production within the bloc. Original equipment manufacturers (OEMs) are already starting to move manufacturing facilities to where batteries are being produced, so if OEMs sign offtake agreements with European battery manufacturers, UK vehicle production becomes even more vulnerable to relocation.

Is the UK suitable for EV and battery manufacturing?

There are draws to manufacturing in the UK. We have a highly skilled automotive workforce, a history of vehicle manufacturing and centres of excellence in future battery chemistry, such as the Advanced Propulsion Centre. Production costs in the UK rival those of Germany, and we can ensure better scrutiny of raw material sourcing, including higher regulations of human rights in the supply chain. The UK also has a competitive chemicals sector, able to support battery production. There is cheap, clean energy available directly from low carbon sources if the right agreements can be met.

Existing barriers to success

The biggest challenge to investment in UK battery production was highlighted in Chris Skidmore's [Mission Zero](#): a lack of policy and investment certainty. There is currently no overarching strategy providing long term certainty to potential investors in the UK's EV supply chain.

The UK faces other specific issues, with extortionate grid connection wait times and high energy costs. This is exemplified by manufacturers paying an estimated [£50 million](#) more per year in energy costs than their EU counterparts. The planning system remains a barrier to green infrastructure with gigafactories being no exception.

Government grants akin to those in IRA are just one route to bringing in cash. Public investment in EV battery research and development amounts, thus far, to over £1 billion, as well as a £500 million investment in the Advanced Propulsion Centre to explore emerging battery technologies. There has been a signal of intent from government, but this has fallen short of setting a clear, concise direction for the industry.

To be successful, this industry will be reliant on private capital as well as government grants. Venture capital interest is important for the early stages of a gigafactory's life, but long term certainty will come from private equity, banks and investment firms. The Green Finance Institute (GFI) [identifies](#) bridging this gap between public and private investment as critical for private capital flow.

Unfortunately, the nature of this industry is that future revenue is unproven: offtake agreements are usually not signed until later in the lifecycle of large capex projects, and OEMs usually won't sign offtake agreements until production commences. A project can quickly become a game of chicken and egg.

The UK has the building blocks to succeed but the window of opportunity is closing rapidly, in part due to IRA and the EU's response, both of which work towards providing a clear trajectory to scale up key net zero industries.

Solutions

The government should prioritise developing a strategy for battery and EV manufacturing in the UK. It should span the entire value chain and clarify how access to critical raw materials will be secured; how private capital will be mobilised; and how the UK will prepare for future opportunities, such as battery recycling and next generation battery technologies.

A high impact, low cost solution presents itself in the form of government driven offtake agreements. The first step should be to create a register of businesses who plan to operate in the EV supply chain. This should include information about both OEM and gigafactory capacity, needs, products and processes. The next step would be to provide signposting to industry about where the best agreements and opportunities lie. Government intervention here would provide certainty to both parties and, if successful, could be replicated at other points in the supply chain, such as purchasing of critical raw materials.

To stimulate the public to private investment pipeline, a Battery Investment Facility – the brainchild of the GFI – would consolidate public and private finance, creating pools of derisked investment to accelerate projects across the infamous ‘valley of death’ and into commercial viability. This could be created as part of the UK Infrastructure Bank, given the specific mention of gigafactories as part of the net zero and regional growth objectives in their [strategic plan](#).

Any further financial incentives for OEMs to choose UK gigafactories would tip the balance in favour of accelerating British EV battery scale up. An additional level of tax allowance on investment could be offered if OEMs meet the criteria of having an offtake agreement with a gigafactory in the UK.

The government must bring together a coherent strategy to create a battery value chain in the UK. This would not only give both OEMs and gigafactories direct government support but also send a wider signal to the market that this is a priority area and something worth investing in for the future.

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